

RESEARCH NATURAL AREAS IN THE ROCKY
MOUNTAIN REGION

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What is a Research Natural Area? A Research Natural Area is an undisturbed parcel of land set aside as part of a National network to:

- (1) Preserve a representative array of all significant natural ecosystems and their inherent processes as baseline areas, and
- (2) Obtain through scientific education and research, information about natural system components, inherent processes and comparisons with representative manipulated systems.

The RNA Program started in 1927 and involves a nationwide network or system of areas set aside by eight Federal land management agencies:

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| (1) Forest Service | (5) Bureau of Indian Affairs |
| (2) Fish and Wildlife Service | (6) Tennessee Valley Authority |
| (3) National Park Service | (7) Department of Defense |
| (4) Bureau of Land Management | (8) Department of Energy |

Most RNA's are established to represent SAF vegetation cover types, or Kuchler potential natural vegetation types. However, they can be established to represent biological or geological phenomena, or ecosystems of special interest. For example, our existing RNA's represent such vegetation cover types as ponderosa pine, spruce-fir and alpine meadow, but we are in the process of establishing one within a peat beds-permafrost area and another representing a sub-alpine aquatic ecosystem.

There are 428 RNA's in the United States of which 138, or about 1/3, are on National Forest System land. As protected, pristine, or near-pristine areas, RNA's form the non-manipulated counterpart of Experimental Ecological Reserves and as control areas for UNESCO's International Biosphere Reserves. RNA's, as unmodified areas, are necessary to measure long-term ecological change, and serve as field laboratories for scientific study of natural processes and education.

The National Forest Mangement Act requires that there be continuous monitoring and assessment of resource management systems on National Forest System lands. Both NFS and Research have the responsibility for carrying out this Congressional mandate to ensure that management practices have no deleterious impact on the productivity of NFS lands.

Region 2 has 9 established RNA's and we are in the process of establishing at least 16 more to cover the major ecosystems which occur in the Region. Each Region has a Research Natural Areas Committee made up of 2 representatives from NFS and 2 from Research. The fact that Station territories, which often overlap several Regions, require that one Station be represented on more than one committee. For example, the ^{Rm}~~RNA~~ Station territory overlaps parts of 4 Regions (1, 2, 3, and 8). The Region 2 Committee is made up of Wally Gallaher and Bob Damon from NFS and Frank Hawksworth and Dan Uresk from the Station.

Each year the committee solicits recommendations for RNA's from Forest Supervisors, Research Project Leaders and people from colleges and universities. These needs are usually based upon a Forest Service "needs" list, or upon judgment of field people. Any proposals received are reviewed by the Committee. If the consensus is that the proposal has merit, the area is inspected for suitability by a team from the Committee and Forest personnel. A suitability report prepared by the team is reviewed by the Committee. If the area is found to be suitable, the report is sent to the Forest Supervisor with

instructions to conduct an environmental analysis. The environmental analysis is approved by the Regional Forester, who with the Station Director, decide if the area should be recommended to the Chief as a RNA. The Regional Forester directs the Forest Supervisor to provide for the RNA in the Forest Land Management Plan, and with the help of a Research representative to prepare an establishment report. When the Forest Land Management Plan is approved, the establishment report is approved by the committee and transmitted through the Regional Forester and Station Director to the Chief for approval.

RNA's are administered by the National Forest or Grassland on which they are located. No uses are permitted which would directly or indirectly modify ecological processes. They are usually not identified by signs, but if they are necessary to protect the integrity of the area, a type which does not tend to attract recreationists, sightseers and casual visitors is chosen. Unless necessary for protection from grazing, RNA's are not fenced.

In general, maintenance of the natural processes within each area is the prime consideration. However, fires endangering RNA's will be extinguished as quickly as possible. Fires within RNA's will be allowed to burn undisturbed unless they threaten persons or property outside of the area, or the uniqueness of the RNA. Debris resulting from fires is not cleaned up, nor is any fire hazard reduction or reforestation undertaken. Generally, no action is taken against endemic insects, diseases or wild animals. Protection measures for RNA's within Congressionally designated areas, such as wilderness, must be in accord with the management plan for that designated area.

Picnicking, camping, collecting plants, gathering nuts and herbs, picking berries, hunting, fishing, trapping, and other public uses which contribute to modification of a research natural area should be discouraged or expressly prohibited if such

uses threaten serious impairment of research or educational values. Public use or access may be limited or prohibited under 36 CFR 261.53 (FSM 5353).

The Forest Service encourages use of natural areas by responsible scientists and educators. Generally, educational use is at the college upper classman or graduate level. However, lower levels of educational institutions are not excluded. Any scientist interested in using a research natural area contacts the appropriate Station Director and outlines the activity planned. In some instances, a special use permit is adequate to cover the planned activity. Normally, however, a cooperative agreement is prepared that outlines the planned research, mechanics of field work, and limitations thereto. This is executed between the scientist and the Station Director with the review and approval of the Forest Supervisor and District Ranger. Research projects inservice and outservice within wildernesses must be submitted to the Regional Forester for approval (FSM 2323.04c). Forest Service scientists cooperate in the research whenever possible to derive the greatest benefit from the work. Copies of all data, reports, etc., resulting from research on an RNA are filed with the Station, Region, Forest, and Washington Office.

Following is a list of existing Forest Service RNA's in Region 2:

<u>Name</u>	<u>Veg. Type</u>	<u>Location</u>	<u>Size (Acres)</u>
Gothic	SAF 206 Engelmann Spruce- Subalpine Fir	Gunnison (CO)	1050
Saddle Mountain	SAF 206 Engelmann Spruce- Subalpine Fir	Pike (CO)	500
Mt. Goliath	SAF 209 Bristlecone Pine	Arapaho (CO)	160
Hurricane Canyon	SAF 210 Interior Douglas Fir	Pike (CO)	520
Bull Elk Park	SAF 218 Lodgepole Pine	Bighorn (WY)	718
Snowy Range	SAF 218 Lodgepole Pine	Medicine Bow (WY)	771
Narraguinnep	SAF 237 Interior Ponderosa Pine	San Juan (CO)	1928

<u>Name</u>	<u>Veg. Type</u>	<u>Location</u>	<u>Size (Acres)</u>
Upper Pine Creek	SAF 237 Interior Ponderosa Pine	Black Hills (SD)	1190
Signal Hill	K-75 Nebraska Sandhills Prairie	Nebraska (NE)	700

The following areas are in various stages of establishment and are expected to be established by the end of FY 1983:

<u>Name</u>	<u>Veg. Type</u>	<u>Location</u>	<u>Size (Acres)</u>
Soldier Creek	K-16 E. Ponderosa Pine	Nebraska (NE)	600
Twin Lakes	K-52 Alpine	Shoshone (WY)	170
Timpas	K-65 Grama-Buffalograss	Comanche (CO)	40
Toadstool Park	K-66 Wheatgrass-Needlegrass	Nebraska (NE)	110
	K-68 Wheatgrass-Grama Buffalograss	Buffalo Gap (SD)	300
Cimarron	K-70 Sandsage-Bluestem Prairie	Cimarron (KS)	80
Pickett's Knob	SAF-208 Whitebark Pine	Shoshone (WY)	300
Pat O'hara Creek	SAF-210 Interior Douglas Fir	Shoshone (WY)	300
Williams Creek	SAF-211 White Fir	San Juan (CO)	300
Escalante Creek	SAF-216 Blue Spruce	Uncompahgre (CO)	20
California Park	SAF-217 Aspen	Routt (CO)	300
Bald Ridge	SAF 219 Limber Pine	Shoshone (WY)	200
Shell Canyon	SAF-220 Rocky Mtn. Juniper	Bighorn (WY)	300
Meadow Lake	- Alpine Aquatic Ecosystem	Shoshone (WY)	800
Sawtooth	- Peat Beds-Permafrost	Shoshone (WY)	160
Savage Run	SAF-218 Lodgepole Pine	Medicine Bow (WY)	950